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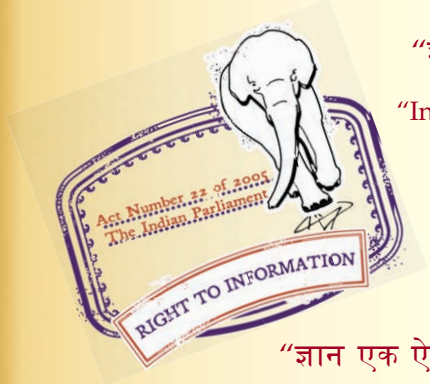
IS 11845-2 (1995): Fluid logic circuits for fluid power systems, Part 2: Symbols for supply and exhausts as related to logic symbols [PGD 16: Fluid Power]



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Bhartṛhari—Nītiśatakam
"Knowledge is such a treasure which cannot be stolen"

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IS 11845 (Part 2) : 1995
ISO 5784-2 : 1989

भारतीय मानक

(Reaffirmed 2005)

तरल पावर तंत्रों के लिए तरल परिपथ —

भाग 2 तर्क प्रतीकों से संबंधित पूर्ति और निष्कासन के प्रतीक

(पहला पुनरीक्षण)

Indian Standard

FLUID LOGIC CIRCUITS FOR FLUID POWER SYSTEMS

PART 2 SYMBOLS FOR SUPPLY AND EXHAUSTS AS RELATED TO LOGIC SYMBOLS

[ISO Title : Fluid power systems and components — Fluid logic circuits — Part 2 : Symbols for supply and exhausts as related to logic symbols]

(First Revision)

UDC 621·22:744·423 : 003·62

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

February 1995

Price Group 3

NATIONAL FOREWORD

This Indian Standard which is identical with ISO 5784-2 : 1989 'Fluid power systems and components — Fluid logic circuits —Part 2 : Symbols for supply and exhausts as related to logic symbols' issued by the International Organization for Standardization (ISO), was adopted by Bureau of Indian Standards on the recommendations of the Basic Fluid Power Sectional Committee and approval of the Production Engineering Division Council.

IS 11845 was first published in 1986 based on ISO/DIS 5784/1. This International Standard has been finalized as ISO Standard in the following three parts :

ISO 5784/1 : 1988	Fluid power systems and components — Fluid logic circuits — Part 1 : Symbols for binary logic and related functions
ISO 5784/2 : 1989	Fluid power systems and components — Fluid logic circuits — Part 2 : Symbols for supply and exhausts as related to logic symbols
ISO 5784/3 : 1988	Fluid power systems and components — Fluid logic circuits — Part 3 : Symbols for logic sequencers and related functions

To align with the international practices, the Sectional Committee, PE 14 has decided to revise IS 11845 : 1986 by adopting the above ISO standards as dual number standards in the following three parts:

IS 11845 (Part 1) : 1994/ ISO 5784-1 : 1988	Fluid logic circuits for fluid power systems : Part 1 Symbols for binary logic and related functions (*first revision*)
IS 11845 (Part 2) : 1994/ ISO 5784-2 : 1988	Fluid logic circuits for fluid power systems : Part 2 Symbols for supply and exhausts as related to logic symbols (*first revision*)
IS 11845 (Part 3) : 1994/ ISO 5784-3 : 1988	Fluid logic circuits for fluid power systems : Part 3 Symbols for logic sequencers and related functions (*first revision*)

The text of the ISO standard has been approved as suitable for publication as Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

a) Comma (,) has been used as a decimal marker in the International Standard, while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

b) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.

In the adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards which are to be substituted in their place are listed below along with their degree of equivalence for the editions indicated:

International Standards	*Corresponding Indian Standards*	*Degree of Equivalence*
ISO 1219 : 1976	IS 7513 : 1974 Graphical symbols for fluid power systems	Technically equivalent
ISO 5598 : 1985	IS 10416 : 1992 Fluid power systems and components—Vocabulary (*first revision*)	Identical
ISO 5784-1 : 1988	IS 11845 (Part 1) : 1994 Fluid logic circuits for fluid power systems : Part 1 Symbols for binary logic and related functions (*first revision*)	Identical

The concerned technical committee has reviewed the provision of IEC Publication 617-12 : 1983 'Graphical symbols for diagrams : Part 12 Binary logic elements' referred in this adopted standard to use in conjunction with this standard.

Indian Standard

FLUID LOGIC CIRCUITS FOR FLUID POWER SYSTEMS

PART 2 SYMBOLS FOR SUPPLY AND EXHAUSTS AS RELATED TO LOGIC SYMBOLS

[ISO Title : Fluid power systems and components — Fluid logic circuits — Part 2 : Symbols for supply and exhausts as related to logic symbols]

(*First Revision*)

1 Scope

This part of ISO 5784 specifies rules for the use of supply or exhaust symbols in basic logic systems needed by the user for better understanding of pipe connections.

This system of symbols may be used to define functions as well as for diagram circuitry. The rules specified in this part of ISO 5784 are applicable to any type of fluid power binary logic device, with or without moving parts.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 5784. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 5784 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 1219 : 1976, *Fluid power systems and components — Graphic symbols.*

ISO 5598 : 1985, *Fluid power systems and components — Vocabulary.*

ISO 5784-1 : 1988, *Fluid power systems and components — Fluid logic circuits — Part 1: Symbols for binary logic and related functions.*

IEC 617-12 : 1983, *Graphical symbols for diagrams — Part 12 : Binary logic elements.*

3 Definitions

For the purposes of this part of ISO 5784, the definitions given in ISO 5598 apply.

4 General

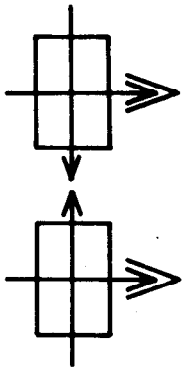
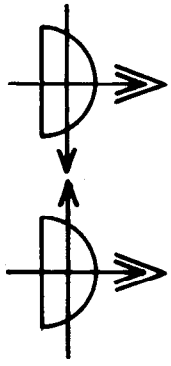
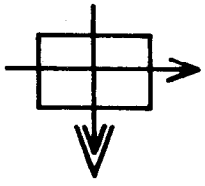
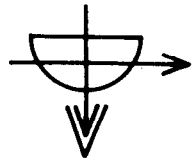
4.1 Shape of graphical symbols

This part of ISO 5784 uses two forms of symbols, in order to be in conformity with ISO 5784-1, in which two forms of symbols are used.

The form A symbols in this part of ISO 5784 are in accordance with IEC 617-12 and are to be preferred; the form B symbols, although currently used, are not to be preferred for future use.

4.2 Signal flow and flow of other quantities

Any connection not carrying information to a component shall be shown perpendicular to the direction of the signal flow.

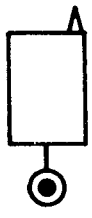
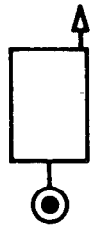
Graphical symbol Form A	Description	Graphical symbol Form B[1]
	 Signal flow  Flow of other quantities	
	When the signal flow direction is from left to right, symbols expressing the input or output of quantities other than signals shall be represented from top to bottom or from bottom to top	
	When the signal flow is from top to bottom, symbols expressing the input and/or outputs of quantities other than signals shall be represented from left to right	

1) This form is not preferred for future use (see 4.1).

5 Supply and exhaust connections

5.1 The symbols used to show supply and exhaust connections are given in ISO 1219.

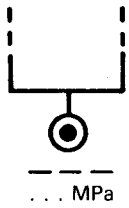
5.1.1 Examples

Code number	Graphical symbol Form A	Description	Graphical symbol Form B[1]
5110-05/2		General symbol with supply and open exhaust	
5110-10/2		General symbol with supply and piped exhaust	

1) This form is not preferred for future use (see 4.1).

NOTE — In the case of hydraulic logic components, the exhaust port is replaced by the drain symbol given in 8.3.1.2 of ISO 1219 : 1976.

5.1.2 Dual- or multi-pressure supply systems

Code number	Graphical symbol	Description
5120-05/2		When a system requires several different supply pressures, the required pressure for each device shall be indicated at the supply connection
NOTE : 1 MPa = 10 bar		

6 Symbols for unistable and bistable devices with and without complementary outputs

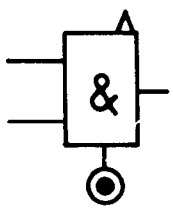
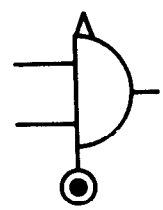
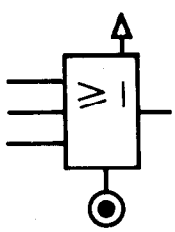
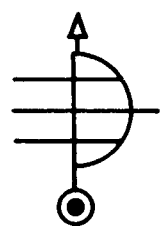
6.1 The rules specified in ISO 5784-1 shall be applied to show unistable or bistable components with or without complementary outputs and exhausts.

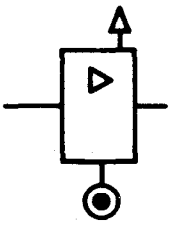
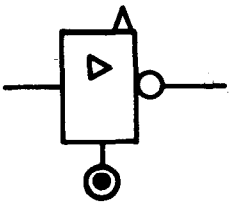
6.1.1 Complementary output

In the case of complementary output, the symbol ↑ shall be located on the side of the envelope close to the corresponding output.

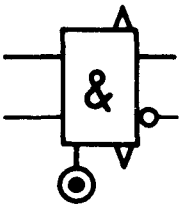
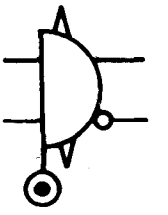
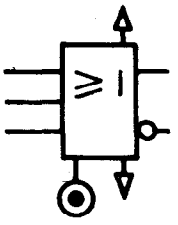
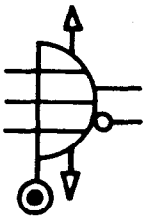
NOTE — The same rule should be applied in the case of multi-pressure supply.

6.1.2 Examples of unistable components with single output

Code number	Graphical symbol Form A	Description	Graphical symbol Form B [1]
6120-05/2		Active AND function with two inputs and open exhaust	
6120-10/2		Active OR function with three inputs and piped exhaust ports	
1) This form is not preferred for future use (see 4.1).			

Code number	Graphical symbol	Description
6120-15/2		Amplifier with supply and piped exhaust port
6120-20/2		Amplifier — Reversed function with supply and open exhaust

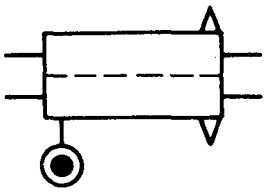
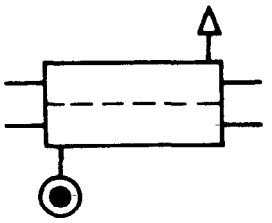
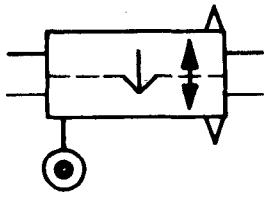
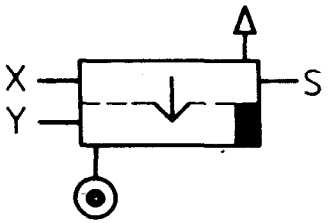
6.1.3 Examples of unistable components with two complementary outputs

Code number	Graphical symbol Form A	Description	Graphical symbol Form B [1]
6130-05/2		Active AND function with two inputs, two complementary outputs and separated open exhausts	
6130-10/2		Active OR function with three inputs, two complementary outputs and separated piped exhausts	

1) This form is not preferred for future use (see 4.1).

NOTE — A symbol drawn with only one exhaust indicates a common exhaust port.

6.1.4 Examples of bistable devices

Code number	Graphical symbol	Description
6140-05/2		Basic symbol (8130-05/1) with the addition of supply and open exhausts
6140-10/2		Basic symbol with supply and common connected exhaust port
6140-15/2		Binary memory (8160-30/1) which holds its previous state in the case of two simultaneous inputs and when the momentarily removed supply is re-established . . . and with supply and open exhausts
6140-20/2		Single output's binary memory which holds its previous state in the case of two simultaneous inputs when the momentarily removed supply is re-established . . . and with supply and connected exhaust port

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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